REMARKS

Claims 1-38 were originally filed. Claims 1, 15-26, and 31-38 were previously canceled without prejudice. Claims 2, 7, 9, 12, 14, 27, 29, and 30 were previously presented. Claims 10, 11, and 13 are currently amended. Accordingly, claims 2-14 and 27-30 are pending. In view of the following remarks, Applicant respectfully requests that the application be forwarded on to issuance.

The Claim Objections

Claims 2-14 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant amends claims 10, 11, and 13 to address the Office's rejection under 112. Claims 10 and 11 now recite "the predetermined reflection image", thereby obviating the ground specifically used to reject these claims. Claim 13, on which claims 2-12 and 14 depend, now recites one act of loading rather than two. Applicant submits that this amendment obviates the ground for the rejection of claim 13 and its dependents and the ground specifically used to reject claims 2, 7, 9, and 14.

35 U.S.C. §103(a)

Claims 13-14, 2-4, 6, and 8-12 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,384,824 to Morgan et al. (hereinafter "Morgan") in view of U.S. Patent No. 6,445,807 to Katayama et al. (hereinafter "Katayama").

Claim 5 stands rejected under 35 U.S.C. §103(a) as being obvious over Morgan in view of Katayama in view of "Computer Graphics: Principles and Practice" of Foley et al.

Claim 7 stands rejected under 35 U.S.C. §103(a) as being obvious over Morgan in view of Katayama in view of U.S. Patent No. 6,297,833 to Ho et al. and in further view of "Microsoft Systems Journal: DirectX 6.0 Goes Ballistic With Multiple New Features and Much Faster Code" of Fosner.

Disqualification of Morgan

Under MPEP 706.02(l) and 35 U.S.C. §103(c), subject matter developed by another person, which qualifies as prior art only under one or more sections (e), (f), and (g) of 35 U.S.C. §102, shall not preclude patentability under 35 U.S.C. §103 where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. With regard to subject matter of a section 102(e) reference, this law is effective for applications filed November 29th, 1999 and later.

The Morgan reference and this application (Serial No. 09/998,380) were, at the time the invention of this application was made, owned by or subject to an obligation of assignment to Silicon Graphics Incorporated. They have since been

assigned to Microsoft Corporation. This application was filed after November 29th, 1999.

For at least this reason, Applicant submits that the grounds for the Office's rejections of claims 2-14 under 103(c) are obviated.

35 U.S.C. §102

Claims 27-30 stand rejected under 35 U.S.C. §102(e) as being anticipated by Morgan.

Response to 35 U.S.C. §102 Rejections

Applicant respectfully submits that the Office has not established that Morgan anticipates the subject matter recited in each of the claims discussed below.

Claim 30, previously presented, recites a computer program product comprising a computer useable medium having computer program logic recorded thereon for enabling a processor to render a computer scene, the computer program logic comprising:

- a texture map comprising reflection data;
- a texture map sampling procedure that enables the processor to obtain a first texture sample from the texture map and apply the first texture sample to an object;
- an environment map;
- an environment map sampling procedure that enables the processor to obtain a second texture sample from the environment map based on the first texture sample and apply the second texture sample to the object; and
- a texture map generating procedure that enables the processor to generate a particular texture map comprising reflection data based on a particular viewpoint.

In this rejection, the Office presents the following argument as its sole ground for rejecting claim 30 under 102:

> In regards to claim 30 Morgan et. al. teaches a method, system and computer program product for bump-mapping into an environment map via multiple passes (column 4, lines 10-12; Fig. 8, 804). A computer system 800 that includes one or more processors, graphics subsystem 803, main memory 808 and secondary memory 810. The secondary memory can include a storage device 814 that reads from and/or writes to a removable storage unit 818. The removable storage unit 818 includes a computer usable storage medium having stored therein computer software and/or data (column 10, lines 35-67, and column 11, lines 1-33).
>
> During pass 1 texture coordinate generator 620 generates bump map coordinates. Texture application 630 uses the generated bump map coordinates to fetch a perturbed normal from bump map (texture map) 622 and further overloads the lighting equation. Bump mapper 634 outputs the perturbed normal N' to lighting block 640. Phong shader 642 then evaluates the overloaded lighting equation using the terms received from texture applicator 630 to generate the refection vector color R_c as described above with respect to step 420. The reflection vector color R_c can then be stored temporarily in frame buffer 650 (column 8, lines 43-67, and column 9, lines 1-35; Fig. 6). The rationale disclosed in the rejection of claim 13, in regards to pass 2, is incorporated herein.
>
> Morgan et al. teaches that the reflection vector R=2N'(N'V)-V, wherein V is a viewing vector at the pixel position. It is noted said viewing vector is considered to define a given viewpoint.

Office Action Mailed October 13th, 2004, page 11, section 26.

And, from the Office's rejection of claim 13 (relevant portion only):

> During the second pass texture coordinate generator 620 converts said reflection vector color, stored in frame buffer 650, to environment map texture coordinates. Environmental mapper 636 then looks up environment map texel(s), based on said environment map texture coordinates, and then access at least one texel (environment texture sample) in environment map 652. Final pixel data in then output to frame buffer 650 and a final image representative of the geometry data bump mapped into an environment map is then output for display on display unit 660. (column 8, lines 43-67, and column 9, lines 1-35; Fig. 6). It is noted that a frame buffer is considered an array of pixels that encode reflection (i.e. color) data.
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> *Office Action, page 4, section 9.*

For a 102 rejection to be proper, the Office must show that a reference *identically* discloses or describes the subject matter of the claim. See *Kalman v. Kimberly-Clark*, 713 F.2d 760, 771, 218 USPQ 781 (Fed. Cir. 1983); and 35 U.S.C. §102 and §103.

The Office quotes Morgan in its argument, but does not show that the quoted portions of Morgan identically disclose or describe all of the recited features of claim 30. Specifically, the Office's argument does not refer to much of the language recited in the claim. The Office's argument makes no reference, for instance, to sampling, a sampling procedure, or applying a texture sample to an object.

Applicant respectfully submits that the Office has not shown that Morgan identically discloses or describes the language and features of claim 30. Simply put, the Office has failed to show how the disclosure of Morgan discloses or describes all of the recited features and language of claim 30. For at least this

reason, Applicant submits that the Office has improperly rejected claim 30 under 102.

Claims 27-29 depend from claim 30 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features that, in combination with those recited in claim 30, are neither disclosed nor suggested in references of record, either singly or in combination with one another.

In addition, the Office relies on Official Notice with regard to its rejection of claims 27 and 28. *See* Office Action, page 12, sections 27 and 28, page 6, section 11, and page 7, section 13. Applicant respectfully objects to and traverses the taking of Official Notice. In accordance with M.P.E.P. §2144.03, Applicant requests that the Office produce art teaching a texture map sampling procedure enabling a processor to obtain red, green, and blue color data from the texture map and store the red, green, and blue color data as a pixel of an object (claim 27). Also, Applicant requests that the Office produce art teaching an environment map sampling procedure enabling a processor to use red, green, and blue color data of a pixel as a reflection vector to obtain the second texture sample (claim 28).

Conclusion

Applicant respectfully submits that all of the claims are in condition for allowance. Accordingly, Applicant respectfully requests that the Office issue a Notice of Allowability. If the Office's next anticipated action is anything other than a Notice of Allowability, Applicant respectfully requests a phone call to discuss scheduling an interview.

Respectfully Submitted,

Date: 13 APR 05

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